MYP unit planner

Stage 1: Integrate significant concept, area of interaction and unit question

Area of interaction focus
Which area of interaction will be our focus? Why have we chosen this?

- Community and Service

because the above AOI along with ATLs willhelp the students to answer the followingquestions:How do I know that how fast the reaction is ?How do I communicate my understanding ofreaction rate?What tools can I use to measure how fast orslow a reaction is?How do I know I have learned the concept theconcept of dynamic equilibrium ?Why and how do we create more products forsome industrially important products byaltering various parameters?What are the consequences if I alter someexternal factors a specific reaction?

Significant concept(s)
What are the big ideas? What do we want our students to retain for years into the future?

conversion of reactants to products is external factor dependent, but sometimes it may not reach product side completely

MYP Unit Question

How far and how fast a reaction reached?

Assessment

What task(s) will allow students the opportunity to respond to the unit questions?
What will constitute acceptable evidence of understanding? How will students show what they have understood?

worksheet to calculate rate of reaction
Formative: Other Written Assessment
in this reaction students were provided with a case-study of a reaction and some data are plotted in graphical or numerical form for the purpose of calculation the rate of reaction. This simulating worksheet is used for the student for their better visualisation of the reaction.

worksheets 2-4: Rate calculation
Formative: Open-Ended Task

These series of open-ended simulation data were provided to them for their processing and for understanding various way of calculating rates of reaction using graphical, and other numerical methods.

Design Lab: of finding percentage of calcium carbonate in egg-shell
Formative: Lab Assignment
in this assignment students, have planned an experiemnts to testify the percentage of calcium carbonate in a sample of given egg-shell. they formulated various hypothesis and tried them in the lab to understand how practical reallife problems can be solved by chemical ways.

Criteria-C: test
Summative: Lab Assignment
a classtest on kinetics and calculating rate of reaction

MYP Objectives

Which specific MYP objectives will be addressed during this unit?

MYP: Arts (For use from Jan./Sept. 2009), MYP Year 5, C Reflection & evaluation
At the end of the course, students should be able to:

- reflect critically on their own artistic development and processes at different stages of their work
- evaluate their work
- use feedback to inform their own artistic development and processes.

MYP: Sciences (For use from Sept. 2010/Jan. 2011), MYP Year 5, C Knowledge & understanding of science
At the end of the course, students should be able to:

- recall scientific knowledge and use scientific understanding to construct scientific explanations
- apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations
- critically analyse and evaluate information to make judgments supported by scientific understanding.

MYP: Sciences (For use from Sept. 2010/Jan. 2011), MYP Year 5, D Scientific inquiry
At the end of the course, students should be able to:

- state a focused problem or research question to be tested by a scientific investigation
- formulate a testable hypothesis and explain it using scientific reasoning
- design and carry out scientific investigations that include variables and controls, material and/or equipment needed, a method to be followed and the way in which the data is to be collected and processed
- evaluate the validity and reliability of the method

- judge the validity of a hypothesis based on the outcome of the investigation
- suggest improvements to the method or further inquiry, when relevant.

MYP: Sciences (For use from Sept. 2010/Jan. 2011), MYP Year 5, E Processing data
At the end of the course, students should be able to:
- collect and record data using units of measurement as and when appropriate
- organize, transform and present data using numerical and visual forms
- analyse and interpret data
- draw conclusions consistent with the data and supported by scientific reasoning.

MYP: Sciences (For use from Sept. 2010/Jan. 2011), MYP Year 5, F Attitudes in science
During the course, students should be able to:
- work safely and use material and equipment competently
- work responsibly with regards to the living and non-living environment
- work effectively as individuals and as part of a group by collaborating with others.

IB Expectations/ Assessment Criteria

Which MYP assessment criteria will be used?

MYP: Sciences (For use from Sept. 2005/Jan. 2006), MYP Year 5, Assessment Criteria
Criterion C: knowledge and understanding of science
- The student explains scientific ideas and concepts and applies scientific understanding to solve problems in familiar and unfamiliar situations.
- The student analyses and evaluates scientific information by making scientifically supported judgments about the information, the validity of the ideas or the quality of the work.

Criterion D: scientific inquiry
- The student defines the purpose of the investigation, formulates a testable hypothesis and explains the hypothesis using scientific reasoning.
- The student identifies the relevant variables and explains how to manipulate them.
- The student evaluates the method commenting on its reliability and/or validity.
- The student suggests improvements to the method and makes suggestions for further inquiry when relevant.

Criterion E: processing data
- The student organizes and transforms data into numerical and diagrammatic forms and presents it logically and clearly,

using appropriate communication modes.

- The student explains trends, patterns or relationships in the data, comments on the reliability of the data, draws a clear conclusion based on the correct interpretation of the data, and explains it using scientific reasoning.

Criterion F: attitudes in science

- The student works largely independently; uses equipment with precision and skill; pays close attention to safety and deals responsibly with the living and non-living environment.
- The student consistently works effectively as part of a team, collaborating with others and respecting their views.

Stage 2: Backward planning: from assessment to the learning activities through inquiry.

Content

What knowledge and/or skills (from the course overview) are going to be used to enable the student to respond to the guiding question?
What (if any) state, provincial, district, or local standards/skills are to be addressed?
How can they be unpacked to develop the significant concept(s) for stage 1?

students are expected to learn the following:
what is meant by the term 'speed' of reaction
various types of reaction classified as slow, fast and moderate, and they are relative to each other
how to measure the rate of a reaction
by product formation method (mass method)
gas collection method
reactant loss method (mass method)
various factors which affects the reaction rate
reversible and irreversible types of reactions and their similarities and differences
dynamic equilibrium is a state where reactions aparently stops ...
factors that affects the equilibrium
case studies of ammonia and sulphuric acid production

student should know how to calculate the speed of a reaction they should use it and twick it for the benefit of society how to increase production of some very important industrial chemical preparation understanding why we should know how far and how fast the reaction is taking place to prevent various poisoning and polluting effects.

Approaches to Learning

How will this unit contribute to the overall development of subject-specific and general approaches to learning skills?

- Collaboration
- Reflection
- Thinking
- Transfer

Learning Experiences	Strategies / Activities / Differentiation
How will students know what is expected of them? Will they see examples, rubrics, templates? How will students acquire the knowledge and practise the skills required? How will they practise applying these? Do the students have enough prior knowledge? How will we know?	How will we use formative assessment to give students feedback during the unit? What different teaching methodologies will we employ? How are we differentiating teaching and learning for all? How have we made provision for those learning in a language other than their mother tongue? How have we considered those with special educational needs?
students prior knowledge is tested with "pre-post test" students were given basic worksheet, so that they can see the simulated data for that purpose, which tells them how the reaction progresses without doing a lab as well as they teaches them how to use the data to find the meaningful information for the profit of the society	differentiation is done by providing higher order question for the gifted one, where as a simple case study based worksheet was given for the students who are little weak.

Resources

What resources are available to us?
How will our classroom environment, local environment and/or the community be used to facilitate students' experiences during the unit?

various simulation to illustrate state of equilibrium
flash movies on rate of reaction and its various collection methods
web-online test
worksheets for calculation of rate and equilibrium values

powerpoint to guide thru the topic in the classroom

Ongoing reflections and evaluation

Unit Reflections

In keeping an ongoing record, consider the following questions. There are further stimulus questions in the unit planning section of *MYP: From principles into practice.*

Students and teachers

What did we find compelling? Was our disciplinary knowledge/skills challenged in any way?
What inquiries arose during the learning? What, if any, extension activities arose?
How did we reflect - both on the unit and on our own learning?
Which attributes of the learner profile were encouraged through this unit? What opportunities were there for student-initiated action?

Possible connections

How successful was the collaboration with other teachers within my subject group and from other subject groups?
What interdisciplinary understandings were or could be forged through collaboration with other subjects?

Assessment

Were students able to demonstrate their learning?
How did the assessment tasks allow students to demonstrate the learning objectives identified for this unit? How did I make sure students were invited to achieve at all levels of the criteria descriptors?
Are we prepared for the next stage?

Data collection

How did we decide on the data to collect? Was it useful?